

TECHNICAL WORK MAY NOT BEGIN PRIOR TO CO APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	AMENDMENT	JOB ORDER NUMBER	APPROPRIATE
QSS Group, Inc.	NAS5- 99124	TASK NO. 333	561-315-90-17-89	00 - 01

TASK TITLE: (NTE 80 characters; include Project name)

Spacecraft Onboard Data Network Prototyping for SpaceLAN

APPROVALS: (Type or print name and sign)					
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR)		DATE	ORG CODE	MAIL CODE	PHONE
Evan Webb <i>Evan Webb</i>		8/9/00	561	561	301-286-2667
BRANCH HEAD		DATE	CODE	PHONE	
Robert W. Stone <i>Robert W Stone</i>		8-9-00	561	301-286-5659	
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR)		DATE	CODE	PHONE	
Robert S. Lebar, Jr. <i>Robert S. Lebar, Jr.</i>		8/14/00	561	301-286-6588	
FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE? CONTRACTING OFFICER'S QUALITY REP.			DESIGNATED FAM:		
[x] NO [] YES					

The contractor shall identify and explain the reason for any deviations, exceptions, or conditional assumptions taken with respect to this Task Order or to any of the technical requirements of the Task Order Statement of Work and related specifications. The contractor shall complete and submit the required Reps and Certs.

(To be completed by Contracting Officer)

C.O. Requested Quote on:

Date: AUG 15 2000

Contractor will develop specification or statement of work under this task for a future procurement. [x] NO [] YES

Flight hardware will be shipped to GSFC for testing prior to final delivery. [] NO [] YES [x] N/A

Government Furnished Property/Facilities: [x] NO [] YES -- SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)

Onsite Performance: [] NO [x] YES If yes: [] TOTAL [x] PARTIAL
If partial, indicate onsite work in SOW by asterisk (*)

Surveillance Plan Attached: [x] NO [] YES

Highlighted Contract Clauses: (to be completed by Contracting Officer)

Per Clause H.14, Task Ordering Procedure, subparagraph (f), the effective date of this task order shall be 8/15/00.

INCENTIVE FEE STRUCTUR(check one)

(See Contract NAS5-99124, Attachment K, Incentive Fee Plan)

	No. 1	No. 2	X No. 3	No. 4	No. 5
Cost	10%	50%	25%	25%	%
Schedule	15%	25%	25%	50%	%
Technical	75%	25%	50%	25%	%

(To be completed by Contracting Officer)

The target cost of this task order is \$ 214,577

The target fee of this task order is \$ 13,751

The total target cost and target fee of this task order as contemplated by the Incentive Fee clause of this contract is \$ 228,328

The maximum fee is \$ 20,098

The minimum fee is \$0.

AUTHORIZED SIGNATURE:

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

Elizabeth J. Austin
SIGNATURE OF CONTRACTING OFFICER

9/7/00
DATE

ELIZABETH J. AUSTIN
CONTRACTING OFFICER

TYPED NAME OF CONTRACTING OFFICER

CONTRACTOR'S ACCEPTANCE:

AUTHORIZED SIGNATURE

DATE

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QSS Group, Inc.	NAS5- 99124	333	

Applicable paragraphs from contract Statement of Work: 1C, 3E

STATEMENT OF WORK: (Continue on blank paper if additional space is required)

The contractor shall provide technical services for both electronics hardware and software development for the SpaceLAN technology development effort. This effort involves market research, design, assembly, and testing of breadboard systems for spacecraft onboard data networks. The network types being investigated for SpaceLAN include 10/100/1000 Mbit Ethernet and IEEE-1355 (Spacewire).

Specifically, this includes:

Market survey of existing Ethernet protocol and physical layer devices. Market survey of Ethernet intellectual property cores for use in programmable devices (e.g. Xilinx, Altera, Actel, etc.) Recommendations for use of these devices for SpaceLAN.

Investigation of using LVDS as physical layer for Ethernet.

VHDL or Verilog design of support circuitry for Ethernet IP core targeted to selected programmable logic device to be used in the SpaceLAN breadboard environment and PowerPC 750 processor.

Board level design for card to be used in SpaceLAN Compact PCI breadboard environment.

*Provide consulting services to separate software effort to develop Ethernet software drivers for SpaceLAN PowerPC 750 processor.

*Test assembled Compact PCI Ethernet interface at the card level and with SpaceLAN network testbed. Demonstrate functional Ethernet network using hardware and software developed on this task with commercial equipment.

*Provide testing services to GSFC engineers developing IEEE-1355 Spacewire interfaces for SpaceLAN.

PERFORMANCE SPECIFICATIONS:

Technical performance for this task will be based on thoroughness and completeness of written reports and design information, and on performance of hardware designed and built.

- Adherence of FPGA performance to design specs and ICDs
- Correct functionality and performance of Compact PCI Ethernet board design

APPLICABLE DOCUMENTS:

SpaceLAN task plan.

TASK END DATE: 7/31/01**MILESTONES/DELIVERABLES AND DATES:**

~~9/15/00~~ 9/30/00 Report on commercial Ethernet protocol devices and IP cores.

11/1/00 Report on use of LVDS as physical layer for Ethernet

2/1/01 Completion of Ethernet interface FPGA.

5/1/01 Completion of board design for Compact PCI Ethernet/LVDS interface board.

5/1/01 Delivery of all VHDL/Verilog code, schematics, timing diagrams, test software, and other documentation for all design work

PERFORMANCE STANDARDS:

Schedule: Adherence to above milestone schedule.

Technical: Performance of overall system acceptable for demonstration of SpaceLAN goals.

FINAL DELIVERY DESTINATION (NAME, BLDG, ROOM):

Evan Webb, bldg.23, E319